

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A semiconductor device comprising:
~~a base which is mainly formed of~~
~~including a semiconductor material;~~
~~an object to be insulated from the base; and~~
~~an insulating material provided in contact with the base; and~~
~~an electrode provided on the insulating material;~~
~~an insulating film provided between the base and the object for insulating the~~
~~object from the base, the insulating film being formed of an insulative inorganic~~
~~material as a main material, the insulative inorganic material containing silicon, oxygen~~
~~and at least one kind of element other than silicon and oxygen, the insulating film~~
~~being provided in contact with the base, the insulating film containing hydrogen atoms,~~
~~and the object being a gate electrode and the insulating film being a gate insulating~~
~~film for insulating the gate electrode from the base;~~
~~wherein the gate insulating film has a region in the vicinity of an interface~~
~~between the gate insulating film and the base where A and B satisfy the relation: B/A~~
~~is 10 or less (here, B is more than A) in the case where the total concentration of the at~~
~~least one kind of element in the region is defined as A and the total concentration of~~
~~hydrogen in the region is defined as B, in which the region is at least a part of the gate~~
~~insulating film in the thickness direction thereof~~
~~wherein the insulating material includes~~
~~silicon, oxygen, hydrogen, and at least one element other than silicon, oxygen and~~

hydrogen, the insulating material having a region where B/A is in a range of 1.6 to 10 where a concentration of the at least one element in the region is defined as A and a concentration of hydrogen in the region is defined as B.

2. (Cancelled)

3. (Currently Amended) The semiconductor device as claimed in ~~claim 15~~, wherein, in the case where the average thickness of the gate insulating film is defined as Y, the region is located at a portion of the gate insulating film which resides within the ~~a~~ thickness of $Y/3Y/10$ of the gate insulating film from the interface.

4. (Currently Amended) The semiconductor device as claimed in claim 1, wherein the at least one kind of element includes at least one of nitrogen, carbon, aluminum, hafnium, zirconium, and germanium.

5. (Currently Amended) The semiconductor device as claimed in claim 1, wherein the concentration of hydrogen and the concentration of the at least one kind of element are measured by means of Secondary Ion Mass Spectrometry.

6. (Currently Amended) The semiconductor device as claimed in ~~claim 15~~, wherein ~~the gate insulating film further includes each hydrogen atom in at least a part of the hydrogen atoms is replaced by a deuterium atom~~.

7. (Currently Amended) The semiconductor device as claimed in ~~claim 4~~ claim 15, wherein the an average thickness of the gate insulating film is 10 nm or less.

8 - 9. (Cancelled)

10. (Currently Amended) The semiconductor device as claimed in ~~claim 4~~ claim 15, wherein the a maximum leakage current passing through the gate insulating film in the a thickness direction thereof that is measured in a state that the a gate voltage is applied to the ~~gate~~ electrode so that the an electric field intensity in the gate insulating film is 3 MV/cm or less is 2×10^{-8} A/cm² or less.

11-12. (Cancelled)

13. (Original) An electronic device comprising the semiconductor device defined by claim 1.

14. (Original) An electronic apparatus comprising the electronic device defined by claim 13.

15. (New) The semiconductor device as claimed in claim 1, wherein the insulating material is formed into a gate insulating film, and the region is located in a vicinity of an interface between the gate insulating film and the base.